

REVIEWS.

A HANDBOOK OF MEDICAL CLIMATOLOGY. By S. EDWIN SOLLY, M.D., M.R.C.S., late President of the American Climatological Association. 8vo. pp. 470. Philadelphia and New York: Lea Brothers & Co., 1897.

THE American medical profession has been slow to recognize the natural advantages which the United States offers for the therapeutic use of its climate. Although Americans are justly said by Europeans to be constant travellers, they often know less of their own country than of Europe. Of late years, however, as internal medicine has become more exact and modern therapeutics has come to embrace every agency for the cure of disease, the climate of the United States has been utilized not only by American travellers, but also by American invalids. There has been wanting a book which prescribes properly the climate of this country with reference to its fitness for the treatment of disease. Weber has given us his excellent handbook of European resorts, but it remained for Solly to be the first American author to supply the needed volume.

The book naturally begins with a brief statement defining medical climatology, and showing the difficulties which such an author has experienced from lack of accurate meteorological data. While the United States Weather Bureau does its utmost, its support is so scanty that it fails in many respects. This is especially true in the lack of humidity observations, and, as the degree of dampness is a vital factor in a given climate, this lack is very serious.

The principles of medical climatology are clearly set forth, and earth, air, water, light, and electricity each receives consideration as factors in a climate. Next follows the physiology of climate, and then its ethnology. The geographical distribution of disease, embracing the civilized world, naturally prepares the way for a classification of climate. A table is given of the principal stations from various portions of the United States, showing summer and winter temperatures and their differences. This concludes the author's very clear and interesting account of the principles of medical climatology.

Section II. is devoted to the influence of climate upon disease, and here, naturally, phthisis first receives extensive consideration. A distinction is made between phthisis and tuberculosis, and the effect of the various elements of climate upon the disease is carefully considered. It is shown that phthisis is most common where the air is impure, experiments having demonstrated that animals inoculated with tubercle bacilli successfully resist if kept in pure air, while others similarly poisoned and kept in close quarters die. Attention is called to the importance of direct sunlight in destroying bacilli. Humidity is shown to be a most powerful factor for evil with the phthisical.

Dryness of air is quite as potent for good as humidity is for evil.

Contrary to a common belief, severe and sudden changes of temperature, provided the air be dry, not only are not injurious, but are beneficial to the phthisical. It is interesting to observe that neglect of sanitary precautions and unhealthy occupations can neutralize the advantages of a favorable climate. Changes of temperature, with moisture, and dampness of soil are proverbially injurious. As Weber remarked, cold is not injurious, nor warmth curative, in phthisis. Equable climates are not necessarily best; but pure air is absolutely essential. It is interesting to note the good effects of a pure atmosphere considerably below the sea-level, which is virtually the use of compressed air on a large scale.

The author next considers the effect of altitude, and shows by tables the diminution in death-rate in higher parts of the world. It is hard to estimate the least altitude which is of benefit to the phthisical, but probably a change of 1500 feet may prove of value. The effect of altitude upon the phthisical is explained by physiological changes. The reduction of oxygen pressure causes the patient to breathe more rapidly, expanding the chest, increasing the action and size of the heart, and also the amount of red blood-corpuscles and hæmoglobin, enhancing the oxygen-absorbing power of the blood in definite ratio to the elevation. From these considerations the general conclusions are drawn that high altitudes have climates favorable for anæmic patients, or those suffering from any other deficiency of the blood; while in chronic germ diseases the improved state of the blood in these cases is of great value, providing the accompanying conditions are not of a nature to be seriously aggravated by altitude. While experiments have not positively demonstrated an increase in the germicidal power of the blood in those inhabiting high regions, clinical observation leads us to believe in its existence. The increased sunlight and sunheat, with electric tension and increased ozone, act practically as efficient germicides to prevent the spread of tuberculous infection.

The author divides phthisis as influenced by climate into tuberculous, pneumonic, and catarrhal. Tuberculous patients do best in most cases in cool, dry climate, and less often in warm, dry climate. Patients of the pneumonic type are in danger in cool, dry air of over-stimulation of the lungs, and hence a warm moist climate as a sedative is better. Catarrhal cases thrive in warm, dry air, which lessens the secretion and acts as a stimulant.

The author devotes attention to the individual and his peculiarities. He divides patients into the wise and unwise, and urges that it is not the consultant, but he who sees the patient repeatedly, who can judge him best. He urges a careful study of the patient's temperament, and presents a table which shows the relative value of temperament as influencing recovery. Naturally enough, a strong physique, irrespective of temperament, is most valuable. The phlegmatic do better than the nervous, provided that each is strong. If physique be poor the nervous patient does better. The writer found that 61 per cent. of patients were wise in caring for themselves, and 39 per cent. were foolish. We are interested to learn further that persons of phlegmatic temperament and strong physique are most apt to show wisdom. The doctrine of rewards and punishments is exemplified in statistics which show that one-third more of the wise are cured above the average of mankind, and four times as many as among the foolish. This Book of Climatological Proverbs closes with the sage conclusion that the essentials of the

general treatment of phthisis are to preserve and strengthen the physique, enforce prudence, and induce placidity. We are glad to know that at least among the phthisical the modern philosophical tenet is not true—"Be good, and you'll be lonesome."

The writer goes into a careful consideration of the results of the treatment of phthisis by change of climate. Here, again, high altitudes bear the palm. The results of various writers the world over are carefully tabulated to show this fact. In comparison with sea climates, it is shown that the phthisical do better the further they are removed from the sea and in high altitude. As regards the use of tuberculin, Trudeau has found it of service only where the patient could tolerate without fever a gradual increase in dosage. Solly's belief is that the moderate use of tuberculin does not materially influence phthisis. There can be, however, no reasonable doubt of the value of sanitarium treatment. It is greatly to be regretted that the well-to-do resort to it so unwillingly, and that there are so few free beds in sanitariums for the poor.

The author urges the danger which attends improvement in the first stages of phthisis. The patient is often deceived into returning to his former home, only to relapse fatally. It is interesting to note that in 52 per cent. of cases diagnosis and treatment were too late for marked improvement, the average delay being two years. The serious consequence of this negligence is shown in the fact that 62 per cent. of first-stage cases were benefited, and but 15 per cent. later. The author concludes this portion of the book by a timely plea for care in the selection of the cases to be sent away from home, and surely the practical experience of the profession, and the many sad disappointments which occur in badly chosen cases, must emphasize the truth of his statement.

We have dwelt thus upon the first portion of the book because of its wide general interest. Other forms of disease are next considered, and the influence of climate upon them. Due caution is urged that patients recovering from pneumonia are not sent suddenly to an altitude and allowed to exercise upon arrival. In asthma barometric pressure is the important element, and must be decidedly increased or decreased to produce a result. In hay-fever the patient must avoid the pollen or dust which excites it. In diseases of the heart high altitude excites and disturbs an irritable heart, even when not diseased. In diseases of the kidney altitude tends to aggravate acute nephritis, and to hold in check chronic nephritis. Solly prefers a warm, low inland climate for chronic renal disease, and especially such surroundings as tend to promote a healthful action of the liver. Altitude does not prevent rheumatism, but aggravates it. Cold and damp are especially injurious.

The limitations of space forbid us from commenting in detail upon the remainder of this book. One hundred and eighty-eight pages are devoted to North and South America, and a reader who is not familiar with the United States will be surprised at the wealth of its climatological resources. Excellent maps, some of them in relief, and abundant tables fully illustrate this portion of the book. The climates of the various resorts of Europe also receive consideration, while the resorts of Africa, Asia, and Australasia are described. The island climates most resorted to are described in concluding the volume. Meteorological tables are appended.

In concluding our review of this volume, we congratulate the profes-

sion of America upon the acquisition of an interesting, reliable, and valuable treatise on climatology. It should enable the profession to act intelligently in the important choice of residence for invalids, and greatly increase the number of cures in patients whose diseases can be favorably affected by climate.

E. P. D.

REFERENCE BOOK OF PRACTICAL THERAPEUTICS. By Various Authors. Edited by FRANK P. FOSTER, M.D., Editor of the *New York Medical Journal* and of Foster's *Encyclopedic Medical Dictionary*. Vol. II. [N to Zymoidin]. Pp. 618. New York: D. Appleton & Company, 1897.

THE second and concluding volume of this work has appeared with commendable promptness, and, like the first, shows the painstaking labor of the editor. The sections devoted to serum-treatment (p. 166), thyroid treatment (p. 287), and mineral waters (p. 362) are exceptionally good. Usually the information is complete and so far advanced as is possible when delays incident to presswork are taken into consideration. As an exception to this statement may be cited that concerning nuclein (p. 19) and strophanthus (p. 230). In the matter upon rhus (p. 131) we find no mention of Pfaff, whose work is quite as important as any which has been done. Of minor errors we find fewer than would have been anticipated in a work of this character. The following is curious (p. 11): "Nitroglycerin is sometimes erroneously regarded as a nitrite. It is a trinitrite of glyceryl." Its correct chemical name, however, is found under nitroglycerin (p. 14). The binder is probably responsible for the cover-title reading "N-X-rays." As a matter of fact, X-rays are noticed on p. 397 and also at the end of the appendix, which is composed of omitted and additional matter. The references are usually to journals, giving year, month, and sometimes date. If their insertion is intended to facilitate reference to original articles, the year, number, and page, as given in the *Index Medicus*, would have been much more satisfactory. The general index, double columns, extending from pages 459 to 544, adds greatly to the value of the work. That of diseases and remedies, from pages 545 to 613, is valuable to the thorough student, but encourages the lazy practitioner, who regards the name of a disease as a peg upon which to hang a prescription. The index of authors (pp. 614 to 618) is hardly satisfactory. For example: On reading the section devoted to toxins there is no indication as to the author quoted until we find a reference "to my most recent paper in THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES for September and October, 1896." We recall at once that the author is Coley, but the "List of Authors" does not contain his name. We turn to our files and find that the article in question is contained in the September and not the October number of this JOURNAL. We continue our reading, and the brackets are unnecessary, for we recognize the editor's concise words, finding clearly stated the important views which have been presented. At the end, closely following the editor's work, we note the name of the contributor, which is Coley. A contributor using his own material to fill up his copy should know where